20VC027 – GO PROGRAMMING

L	T	P	Credit
2	0	1	2

Preamble This course provides an introduction to Go language basic data types, functions, arrays, pointers, maps, strings and implements concurrency model to demonstrate parallel execution.

Unit – I Fundamentals of Go Programming: **15**

Introduction-Data Type-constants - Map Go Control Statements: If, switch, for, break, continue-Type Casting-Array-Slices-Command Args

Unit – II Strings and Packages: **15**

String Packages-Regular expression- Go Variadic functions -recursive-closure-Hash Table -Structure-Interface- pointer-Exception Handling-Error-recover-Concurrency-Race-Mutex-Channel-File-Go Http Server-Go JSON

List of Exercises / Experiments:

1. Create a "Hello world" application using Go Programming.
2. Write a program to shift all zero to the end of array in Golang.
3. Create a variadic function that prints the names of students.
4. Implement student mark analysis using Packages.
5. Create area calculation of different shapes application using Interfaces.
6. Implement a binary tree to implement an insertion sort using Struct.
7. Convert any Go data structure to JSON using marshalling technique.
8. Write a program to reads a sequence of lines and prints only the first occurrence of each distinct line using MAP.
9. Compute the 50th Fibonacci number using recursive function and Goroutine.
10. Write a program that prints a list of cities to a new file.
11. Create a channel using make function using short hand declaration and display the capacity of the channel.
12. Create a login form and validate email id using regexp.
13. Create multiple Go routines which prints name of the authors, ID of the authors concurrently.

Lecture:30, Practical:20, Total: 50

REFERENCES:

1. Caleb Doxsey, "Introducing Go", OReilly Publication, 2016.
2. Alan A. A. Donovan, Brian W. Kernighan, "The Go Programming Language", Pearson Education, 2015.
3. William Kennedy, Brian Ketelsen, Erik St. Martin, Erik Saint Martin ,"Go in Action", Manning Publications, 2015.

COURSE OUTCOMES:

On completion of the course, the students will be able to		BT Mapped (Highest Level)
CO1	demonstrate data types, control structures, arrays and functions with simple application	Applying (K3) Precision (S3)
CO2	implement basic applications using strings, structures, packages and interfaces	Applying (K3) Precision (S3)
CO3	apply Reflect, Rune, Map and Concurrency for a real world application	Applying (K3) Precision (S3)
CO4	Develop applications using file, HTTP server and JSON	Applying (K3) Precision (S3)

Mapping of Cos with POs and PSOs

Cos/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	2	1								1	1
CO2	3	2	1	2	1								1	1
CO3	3	2	1	2	1								1	1
CO4	3	2	1	2	1								1	1

1 – Slight, 2 – Moderate, 3 – Substantial, BT- Bloom's Taxonomy

ASSESSMENT PATTERN

Test / Bloom's Category*	Remembering (K1) %	Understanding (K2) %	Applying (K3) %	Analyzing (K4) %	Evaluating (K5) %	Creating (K6) %	Total %
MCQ (50 marks)	10	20	70				100
Miniproject (50 marks)		30	70				100

Signature of the Chairman
Board of Studies – CSE

ACADEMIC CELL

KONGU ENGINEERING COLLEGE
(Autonomous)
PERUNDURAI – 638060
INTERNAL QUALITY ASSURANCE CELL

Estd 1984

CERT No. 99-100 20788
ISO 9001 2015

Approval for Value Added Course (Two Credits)

Academic Year: 2021-2022 EVEN Semester

DEPARTMENT OF CSE

Date: 07.04.2022

1.	Academic Year	:	2021-2022	Semester: EVEN	
2.	Course Title	:	Go Programming	Credit(s): Two	
3.	Type of Course	:	New Course		
4.	• If " Already offered course",	:	Course Code: -	Version: -	
	Course Coordinator(s)	:	Dr. K. Kousalya Mr. B. Krishnakumar		
5.	Course offered by	:	External faculty		
6.	Name and designation of external resource persons	:	Mr. B. Gokulnath, Software Engineer		
7.	Details about external organization	:	Privafy Technologies India Pvt Ltd.,Bangalore		

8.	Course fee for external experts	Max. number of students/Batch	Course fee / student
	5000	50	100

9.	No. of days	Period		No. of hours			Venue/ Meet ID
		From	To	Lecture	Practical	Total	
	30	21.03.2022	31.05.2022	30	20	50	IT Park

10.	Pre-requisites for offering the course	:	-		
11.	Course offered to	:	Programme	Branch	Year/Semester
			BE	CSE	II/IV
12.	Course Main Contents	:	Day 1	Introduction-Data Type-constants	
			Day 2	Map Go Control Statements: If, switch, for, break, continue	
			Day 3	Create a "Hello world" application using Go Programming.	

Day 4	Type Casting-Array Slices-Command Line
Day 5	Write a program to shift all zero to the end of array in Golang
Day 6	String
Day 7	Packages-Regular expression
Day 8	Implement student mark analysis using Packages.
Day 9	Go Variadic functions
Day 10	Create a variadic function that prints the names of students.
Day 11	recursive-closure-Hash Table -Structure-Interface
Day 12	Create area calculation of different shapes application using Interfaces
Day 13	Write a program that counts the occurrences of each distinct Unicode co de point in its input using Hash table.
Day 14	Pointer - Exception Handling – Error – recover - Concurrency
Day 15	Race-Mutex-Channel-File-
Day 16	Go Http Server-Go JSON
Day 17	Implement the counting semaphore to ensure that no more than 20 Goroutines made simultaneous HTTP requests in banking applications.
Day 18	Implement a binary tree to implement an insertion sort using Struct.
Day 19	Convert any Go data structure to JSON using marshaling technique.
Day 20	Write a program to reads a sequence of lines and prints only the first occurrence of each distinct line using MAP.
Day 21	Compute the 50th Fibonacci number using recursive function and Goroutine.
Day 22	Write a program that prints a list of cities to a new file.
Day 23	Create a channel using make function using short hand declaration and display the capacity of the channel.
Day 24	Create a login form and validate email id using regexp.
Day 25	Create multiple Go routines which prints name of the authors, ID of the authors concurrently.

13.	Course Outcomes	:	CO1 demonstrate data types, control structures, arrays and functions with simple application CO2 implement basic applications using strings, structures, packages and interfaces CO3 apply JSON, Race, Mutex and Concurrency for a real world application

14. Course Assessment (Min. 2) :

S. No.	Type	Max. Marks
1.	Multiple Choice Questions	50
2.	Mini project	50
	Total	100 Marks

15.	Verified that the content of this course is not offered to students partially/fully in regular curriculum of respective programme of the student. Certify that the course content, credits and grade are approved in the BOS meeting or approved by internal BOS members and will be ratified in the next BOS meeting	11/4/22 (Signature of the HoD after verification)
16.	Any other details : -	

The above proposal may kindly be approved.

1. 3.

2. 4. S. Gayi

Course co-ordinator(s)

11/4/22
HOD

06/5/2022
Chief Coordinator/Academic

Encl:

1. Copy of the syllabus of the course

KONGU ENGINEERING COLLEGE

(Autonomous)
PERUNDURAI – 638060
INTERNAL QUALITY ASSURANCE CELL

Department Computer Science and Engineering
Attendance Sheet

CERT No : 99 100 20786
ISO 9001 : 2015

Title of the Course: Go Programming
Date: 01.05.2022 to 19.06.2022

S. No.	Name of the Participants	Date/Sign															
		1/5	2/5	8/5	15/5	22/5	23/5	24/5	26/5	27/5	3/6	5/6	7/6	8/6	9/6	11/6	12/6	19/6
1.	SANTHOSH A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	A	P	P
2.	SARAN S	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P	P	P
3.	SATHISH KUMAR R	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4.	SAUMYA S	P	P	P	P	P	A	P	P	P	A	P	P	A	P	P	P	P
5.	SENTHILVEL K	P	A	P	P	P	P	P	P	P	P	P	A	A	P	P	P	P
6.	SHANJANA RS	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	A	P
7.	SHARATH S	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
8.	SHEIK ALAUDEEN Y	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P
9.	SHYAM SUNDER J	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P

S. No.	Name of the Participants	Date/Sign															
		1/5	2/5	8/5	15/5	22/5	23/5	24/5	26/5	27/5	3/6	5/6	7/6	8/6	9/6	11/6	12/6	19/6
10.	SOBIYA K	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
11.	SOWMIYA S	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
12.	SOWMIYA N	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P
13.	SOWNDHARIYA J	P	P	P	P	A	P	P	P	A	P	P	P	P	P	P	P	P
14.	SOWNTHARI RP	P	P	P	P	P	P	P	P	P	P	P	A	P	A	P	P	P
15.	SRI HARIESH KG	P	P	P	A	P	P	P	P	P	P	P	P	P	P	A	P	P
16.	SRIDHAR R	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
17.	SRISANJAI N	P	P	P	P	P	P	A	P	A	P	P	P	P	A	P	P	P
18.	SUBASHAKTHI T	P	A	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
19.	SUDHAN ED	P	P	P	P	P	P	P	A	P	P	P	A	P	P	P	P	P
20.	SUJISHREE K	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
21.	SUPRAJA A	P	P	A	P	P	P	P	P	A	P	P	P	P	P	P	P	P
22.	SUVEETHA M	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
23.	SWARNAL	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P
24.	SWETHA P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P

S. No.	Name of the Participants	Date/Sign																
		1/5	2/5	8/5	15/5	22/5	23/5	24/5	26/5	27/5	3/6	5/6	7/6	8/6	9/6	11/6	12/6	19/6
25.	SWETHA S	P	P	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P
26.	THAMBIRAJ V	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P	P
27.	THAMIZ SELVAN A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
28.	UDHAYA KUMAR R	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	P	P
29.	UVA ROOBINI S	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
30.	VAIBHAV S	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P
31.	VARSHINI M	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
32.	VASANTH K	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
33.	VEDAVIYAS KS	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
34.	VENKATE RAMANAN M	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
35.	VIDHU A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
36.	VIJAYALAKSHMI S	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
37.	VIMAL KUMAR S	P	P	P	P	P	P	A	P	P	A	P	P	A	P	P	P	P
38.	VISHNUDA PK	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
39.	VISWA V	P	A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P

S. No.	Name of the Participants	Date/Sign																
		1/5	2/5	8/5	15/5	22/5	23/5	24/5	26/5	27/5	3/6	5/6	7/6	8/6	9/6	11/6	12/6	19/6
40.	VIVEHA C	P	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P
41.	YOGAVARSHAN S	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
42.	YUSVANTH SUBRAMINYAN	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
43.	SANTHOSH VB	P	P	P	P	P	P	P	A	P	P	P	A	P	A	P	P	P
44.	JAISURIYA D	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P
45.	MAGENDRAPRASAT MG	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
46.	KARTHICK S	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P
47.	KETZI TABITHA M	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P
48.	MOHAN RAJ A	P	P	P	A	P	P	P	P	P	P	P	P	P	P	A	P	P
49.	NAGAPRIYA R	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P

KONGU ENGINEERING COLLEGE PERUNDURAI ERODE - 638060
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

20VC027 - GO PROGRAMMING

S.No	Roll No	Name of the Student	MCQ	Mini Project	Total
1	20CSR186	SANTHOSH A	38	43	81
2	20CSR189	SARAN S	39	44	83
3	20CSR190	SATHISH KUMAR R	37	45	82
4	20CSR191	SAUMYA S	45	45	90
5	20CSR192	SENTHILVEL K	46	44	90
6	20CSR193	SHANJANA RS	39	46	85
7	20CSR194	SHARATH S	48	48	96
8	20CSR195	SHEIK ALAUDEEN Y	46	45	91
9	20CSR196	SHYAM SUNDER J	46	46	92
10	20CSR201	SOBIYA K	42	41	83
11	20CSR202	SOWMIYA S	46	44	90
12	20CSR203	SOWMIYA N	46	46	92
13	20CSR204	SOWNDHARIYA J	46	46	92
14	20CSR205	SOWNTHARI RP	46	47	93
15	20CSR206	SRI HARIESH KG	40	41	81
16	20CSR207	SRIDHAR R	48	49	97
17	20CSR208	SRISANJAI N	39	43	82
18	20CSR210	SUBASHAKTHI T	38	44	82
19	20CSR211	SUDHAN ED	38	45	83
20	20CSR215	SUJISHREE K	41	44	85
21	20CSR217	SUPRAJA A	42	45	87
22	20CSR219	SUVEETHA M	40	43	83
23	20CSR220	SWARNA L	47	46	93
24	20CSR221	SWETHA P	42	41	83
25	20CSR222	SWETHA S	40	43	83
26	20CSR223	THAMBIRAJ V	41	44	85
27	20CSR224	THAMIZ SELVAN A	42	40	82
28	20CSR225	UDHAYA KUMAR R	38	44	82
29	20CSR226	UVA ROOBINI S	40	41	81
30	20CSR227	VAIBHAV S	39	43	82
31	20CSR228	VARSHINI M	39	42	81
32	20CSR229	VASANTH K	38	44	82
33	20CSR231	VEDAVIYAS KS	48	49	97
34	20CSR232	VENKATE RAMANAN M	37	44	81
35	20CSR233	VIDHU A	46	45	91
36	20CSR235	VIJAYALAKSHMI S	47	45	92
37	20CSR236	VIMAL KUMAR S	48	49	97
38	20CSR238	VISHNUDA PK	42	44	86
39	20CSR239	VISWA V	43	42	85
40	20CSR240	VIVEHA C	41	42	83

41	20CSR241	YOGAVARSHAN S	39	44	83
42	20CSR243	YUSVANTH SUBRAMINYAN	48	49	97
43	20CSL263	SANTHOSH VB	39	43	82
44	20CSR078	JAISURIYA D	43	41	84
45	20CSR113	MAGENDRAPRASAT MG	42	44	86
46	20CSL251	KARTHICK S	39	45	84
47	20CSL252	KETZI TABITHA M	38	44	82
48	20CSL255	MOHAN RAJ A	39	42	81
49	20CSL256	NAGAPRIYA R	42	44	86

Course Co-ordinators
Dr. K. Kousalya
Mr. B. Krishnakumar

HoD / CSE